



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE

United States Patent and Trademark Office

Address: COMMISSIONER FOR PATENTS

P.O. Box 1450

Alexandria, Virginia 22313-1450

www.uspto.gov

| APPLICATION NO.   | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|----------------------|---------------------|------------------|
| 10/762,535  | 01/23/2004  | Sang Woon Suh        | 1740-000043/US      | 2581             |
| 30/593 7590 02/27/2009<br>HARNESS, DICKEY & PIERCE, P.L.C.<br>P.O. BOX 8910<br>RESTON, VA 20195 |             |                      |                     |                  |
| EXAMINER  |             |                      |                     |                  |
| GHESY, ADAM   |             |                      |                     |                  |
| ART UNIT  |             | PAPER NUMBER         |                     |                  |
| 2627  |             |                      |                     |                  |
| MAIL DATE   |             | DELIVERY MODE        |                     |                  |
| 02/27/2009  |             | PAPER                |                     |                  |

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

# Office Action Summary

**Application No.**

10/762,535

**Applicant(s)**

SUH ET AL.

**Examiner**

ADAM R. GIESY

**Art Unit**

2627

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 04 December 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1,2,4-6,14-16,18-20,28-30,32-34,42,57,58,60-62 and 70 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,2,4-6,14-16,18-20,28-30,32-34,42,57,58,60-62 and 70 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 04 December 2008 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Examiner's Patent Drawing Review (PTO-946)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Information Disclosure Statement***

1. The information disclosure statements filed 9/23/2008, 11/6/2008, and 1/12/2009 fail to comply with 37 CFR 1.98(a)(2), which requires a legible copy of each cited foreign patent document; each non-patent literature publication or that portion which caused it to be listed; and all other information or that portion which caused it to be listed. It has been placed in the application file, but the information referred to therein has not been considered.

Examiner notes that only the references that are lined through are not considered. References were not considered because they were either missing from Applicant's submission or because they did not contain a legible English translation.

### ***Drawings***

2. The drawings were received on 12/4/2008. These drawings are accepted.

### ***Claim Objections***

3. Claim 29 is objected to because of the following informalities:

Examiner asserts that lines 3-4 of claim 29 should be changed to read --...utilizing control information, which controls reproduction of a main data, to reproduce the main data,...-- instead of "--...utilizing control information which controls reproduction of a main data, to reproduce the data,...".

Appropriate correction is required.

### ***Double Patenting***

4. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the

unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

5. Claims 1 and 29 provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1 and 9 of copending Application No. 11/898040 in view of Deng (USPN 5,892,797).

This is a provisional obviousness-type double patenting rejection.

Claims 1 and 9 recited all of the features of the recording medium of the instant application claims 1 and 29, except for the limitation that in the bi-phase modulation one of the bit 0 and bit 1 is represented by a transition from high to low in the middle of the predetermined period and another one is represented by a transition in a opposite direction in the middle of the period.

Deng disclose a method of bi-phase modulation known as Manchester encoding wherein transitions in the middle of the bit-cells are used to indicate a bit 1 and a bit zero (see column 3, lines 16-30; see also Figure 1).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the wobbled arrays of pits containing control data with the Manchester encoding scheme to delineate a 1 bit and a 0 bit in the bi-phase modulated control data of the optical disc, the motivation being to provide accurate identification of control information with added copyright protection.

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1, 2, 4-6, 14-16, 18-20, 28-30, 32-34, 42, 57, 58, 60-62, and 70 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant Admitted Prior Art (hereinafter AAPA) in view of Deng (USPN 5,892,797).

Regarding claim 1, AAPA discloses a computer-readable recording medium, comprising: an information area, the information area including a first region for a main data (see Figure 1, element labeled 'Data Area' in instant specification), and a second region for control information which controls recording or reproduction of the main data (see Figure 1, element labeled 'Lead-In Area' in instant specification), said control information being encoded in wobbled pattern, wherein said control information is recorded by a bi-phase modulation method in such a manner that bit 0 and bit 1 are determined respectively depending on a direction of a transition of the wobble pattern within a predetermined period (see paragraphs 0005-0007 in instant specification).

AAPA fails to disclose that the bit 0 and the bit 1 is represented by only one transition from high to low in a middle within the predetermined period and another one is represented by only one transition to an opposite direction in the middle within the predetermined period.

Examiner notes that an encoding scheme where one of the bit 0 and the bit 1 is represented by a transition from high to low in a middle within the predetermined period and another one is represented by a transition in a opposite direction within the period is simply referred to as Manchester encoding. Examiner cites Deng (USPN 5,892,797) as disclosing a method of bi-phase modulation known as Manchester encoding (see column 3, lines 16-30; see also Figure 1).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the control information with the bi-phase modulated wobble pattern as disclosed by AAPA with the Manchester Encoding scheme of phase modulation as disclosed by Deng, the motivation being to provide accurate identification of control information with added copyright protection.

Regarding claim 2, AAPA and Deng disclose all of the limitations of claim 1 as discussed in the claim 1 rejection above. AAPA further discloses that the control information is recorded in a lead-in zone of the information area of the recording medium (see Figure 3 in instant specification – note that the PIC is in the Lead-In zone).

Regarding claim 4, AAPA and Deng disclose all of the limitations of claim 2 as discussed in the claim 2 rejection above. AAPA further discloses that the control

information is recorded in a permanent information & control (PIC) data area of the lead-in zone (see paragraph 0011 in instant specification).

Regarding claim 5, AAPA and Deng disclose all of the limitations of claim 4 as discussed in the claim 4 rejection above. Deng further discloses a Manchester modulation pattern wherein the bit 0 is represented by the transition from low to high in the middle within the predetermined period, while the bit 1 is represented by the transition from high to low in the middle within the predetermined period (see column 3, lines 16-30; see also Figure 1, trace 101b).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the control information with the bi-phase modulated wobble pattern as disclosed by AAPA with the Manchester Encoding scheme of phase modulation as disclosed by Deng, the motivation being to provide accurate identification of control information with added copyright protection.

Regarding claim 6, AAPA and Deng disclose all of the limitations of claim 1 as discussed in the claim 1 rejection above. AAPA further discloses that the said control information is recorded in a permanent information & control (PIC) data area of the information area as part of disc information or independent of the disc information (see paragraph 0011 in instant specification).

Regarding claim 14, AAPA and Deng disclose all of the limitations of claim 1 as discussed in the claim 1 rejection above. AAPA further discloses that the information area further includes a third region for storing identification information to identify the presence or absence of the control information, said identification information is

encoded in wobbled pattern by bi-phase modulation (see paragraph 0010 in instant specification).

Method claims 15, 16, 18-20 and 28 are drawn to the method of using the corresponding apparatus claimed in claims 1, 2, 4-6, and 14. Therefore method claims 15, 16, 18-20 and 28 correspond to apparatus claims 1, 2, 4-6, and 14 and are rejected for the same reasons of anticipation (obviousness) as used above.

Regarding claim 29, AAPA discloses a method of reproducing data from a recording medium, comprising: utilizing control information which controls reproduction of a main data, to reproduce the main data, the control information being encoded in wobbled pattern (see paragraph 0011 in instant specification), said control information being encoded by a bi-phase modulation method in such a manner that bit 0 and bit 1 are determined respectively depending on a direction of a transition of the wobble pattern within a predetermined period (see paragraphs 0005-0007 in instant specification), and wherein the utilizing step includes a step of decoding the control information by a demodulation method (see paragraph 0011 in instant specification – note that modulated data inherently must be demodulated in order to create the data from the wobbled pits/grooves). AAPA fails to disclose that the bit 0 and the bit 1 is represented by only one transition from high to low in a middle within the predetermined period and another one is represented by only one transition to an opposite direction in the middle within the predetermined period.

Examiner notes that an encoding scheme where one of the bit 0 and the bit 1 is represented by a transition from high to low in a middle within the predetermined period



and another one is represented by a transition in a opposite direction within the period is simply referred to as Manchester encoding. Examiner cites Deng (USPN 5,892,797) as disclosing a method of bi-phase modulation known as Manchester encoding (see column 3, lines 16-30; see also Figure 1).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the control information with the bi-phase modulated wobble pattern as disclosed by AAPA with the Manchester Encoding scheme of phase modulation as disclosed by Deng, the motivation being to provide accurate identification of control information with added copyright protection.

Regarding claim 30, AAPA and Deng disclose all of the limitations of claim 29 as discussed in the claim 29 rejection above. AAPA further discloses that the control information is recorded in a lead-in zone of the information area of the recording medium, and wherein the utilizing step includes a step of reading the control information in the lead-in zone (see paragraph 0011 in instant specification; see also Figure 3 – note that the PIC is in the Lead-In zone).

Regarding claim 32, AAPA and Deng disclose all of the limitations of claim 30 as discussed in the claim 30 rejection above. AAPA further discloses that the control information is recorded in a permanent information & control (PIC) data area of the lead-in zone, and wherein the reading step reads the control information in the PIC data area (see paragraph 0011 in instant specification; see also Figure 3 – note that the PIC is in the Lead-In zone).

Regarding claim 33, AAPA and Deng disclose all of the limitations of claim 32 as discussed in the claim 32 rejection above. Deng further discloses a Manchester modulation pattern wherein the bit 0 is represented by the transition from low to high in the middle within the predetermined period, while the bit 1 is represented by the transition from high to low in the middle within the predetermined period, and wherein the decoding step decodes the bit 0 or 1 by identifying the transition direction (see column 3, lines 16-30; see also Figure 1, trace 101b).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the control information with the bi-phase modulated wobble pattern as disclosed by AAPA with the Manchester Encoding scheme of phase modulation as disclosed by Deng, the motivation being to provide accurate identification of control information with added copyright protection.

Regarding claim 34, AAPA and Deng disclose all of the limitations of claim 29 as discussed in the claim 29 rejection above. AAPA further discloses that the control information is recorded in a permanent information & control (PIC) data area as part of disc information or independent of the disc information, and wherein the utilizing step includes a step of reading the control information as part of disc information or independent of the disc information (see paragraph 0011 in instant specification).

Regarding claim 42, AAPA and Deng disclose all of the limitations of claim 29 as discussed in the claim 29 rejection above. AAPA further discloses that the utilizing step includes a step of utilizing identification information to identify the presence or absence

of the control information, said identification information being encoded in wobbled pattern by bi- phase modulation (see paragraphs 0010-0011 in instant specification).

Apparatus claims 57, 58, 60-62, and 70 are drawn to the apparatus corresponding to the method of using same as claimed in claims 29, 30, 32-34, and 42. Therefore apparatus claims 57, 58, 60-62, and 70 correspond to method claims 29, 30, 32-34, and 42 and are rejected for the same reasons of anticipation (obviousness) as used above.

### ***Response to Arguments***

8. Applicant's arguments with respect to claims 1, 15, 29, and 57 have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ADAM R. GIESY whose telephone number is (571)272-7555. The examiner can normally be reached on 8:00am- 5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wayne R. Young can be reached on (571) 272-7582. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

ARG 2/24/2009

/Adam R. Giesy/  
Examiner, Art Unit 2627

/Wayne Young/  
Supervisory Patent Examiner, Art Unit 2627